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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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David J. Waller

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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

UHLENHAK, JASON S

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/780,169	Applicant(s) WALLER ET AL.	
	Examiner Jason Uhlenhake	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9,13-22,24-26 and 38-56 is/are rejected.
- 7) ☒ Claim(s) 3,8,10-12,23 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

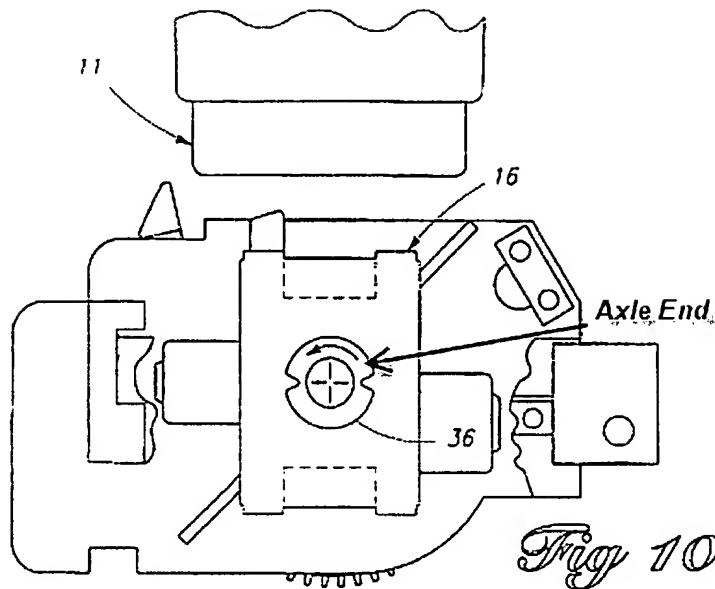
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al (U.S. Pat. 5,587,729).

Lee et al discloses:

- ***regarding claim 1***, an axially movable driveshaft including a gear (Figure 10; Column 5, Lines 50-64); a sled including first (48) and second (50) engagement structures each adapted to selectively engage said gear and a retaining structure positioned between the first and second engagement structure (Figures 6 – 8; Column 2, Lines 14 – 32; Column 4, Lines 17 – 35)



- **regarding claim 2**, the driveshaft is shiftable between a disengaged position and an engaged position wherein the gear engages one of the engagement structures (Column 5, Lines 30 – 40)
- **regarding claim 4**, driveshaft in the engaged position is operatively connected to a power shaft that transmits power to the driveshaft (Column 4, Lines 35 – 51)
- **regarding claim 9**, a motor (78) that drives the power shaft (Column 4, Lines 35 – 51)

Claims 13 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirano et al (U.S. Pat. 5,907,334).

Hirano et al discloses:

- ***regarding claim 13***, first (10) and second (19) sleds, the first sled including a first engagement (37) structure and first and second retaining walls (1a, 1b) positioned on opposite sides of the first engagement structure, and the second sled including a second engagement (34) structure positioned adjacent the second retaining wall (Column 2, Lines 59 – 67; Column 3, Lines 1 – 19; Column 5, Lines 47 – 67; Column 6, Lines 1 – 11; Figures 1, 3)
- a servicing station drive structure (10, 19) movable between a disengaged position, a first engaged position (37), and a second engaged position (34), the drive structure in the first engaged position engaging the first engagement structure and the drive structure in the second engaged position engaging the second engagement structure (Column 5, Lines 47 – 67; Column 6, Lines 1 – 11; Figures 1, 3)
- a biasing member that biases the servicing station drive structure to move from the first engaged position to the second engaged position (Column 8, Lines 32-37)

Claims 31 – 35, 38 – 39, 42, 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Belon et al (U.S. Pat. 6,172,691).

Belon et al discloses:

- ***regarding claim 31***, a driveshaft (82); a sled (180) including a rack (198) adapted to selectively engage the driveshaft and a retaining wall (housing structure 52) positioned to retain the driveshaft on the rack in a zone (Column 7, Lines 28 – 30, Lines 45 – 55; Column 8, Lines 11 – 27)

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- **regarding claim 32**, the driveshaft is shiftable between a disengaged position and an engaged position where the driveshaft engages a powered gear and rack (Column 7, Lines 28 – 30, Lines 45 – 55; Column 8, Lines 11 – 27)
- **regarding claim 33**, the powered gear is operatively connected to a power shaft (124) that, when the driveshaft is in the engaged position, the powered gear transmits power to the driveshaft (Column 5, Lines 17-35)
- **regarding claim 34**, the powered gear is an idler gear and where the power shaft transmits power to the driveshaft through the idler gear (Column 7, Lines 28 – 30, Lines 45 – 55; Column 8, Lines 11 – 27)
- **regarding claim 35**, a shift arm (146) that moves between an engaged position and a disengaged position, wherein movement of the shift arm (146) from the disengaged position to the engaged position moves the driveshaft into engagement with the idler gear and the rack (Column 7, Lines 28 – 30, Lines 45 – 55; Column 8, Lines 11 – 27)
- **regarding claim 38**, a motor (102) that drives the power shaft (Figure 4)
- **regarding claim 39**, a sled further includes a cap (182, 184), a wiper (186, 188) and a spittoon (68a, 68b)
- **regarding claim 42**, a sled (180) including an engagement structure (150, 152, 190 of Figure 4) and a retaining structure; a power shaft (124) that transmits power to a driveshaft (Column 2, Lines 5 – 17; Column 7, Lines 28 – 30, Lines 45 – 55; Column 8, Lines 11 – 27)

- the driveshaft (82) movable between an engaged position and a disengaged position, the driveshaft in the engaged position engaging the power shaft (124) and the engagement structure (150, 152, 190, of Figure 4) of the sled (180) so as to transmit power from the power shaft (124) to the sled (180); the sled retaining structure (housing structure 52) retains the drive shaft in the engaged position in a predetermined zone of the retaining structure (Column 7, Lines 28 – 30, Lines 45 – 55; Column 8, Lines 11 – 27)

- **regarding claim 43**, a shift mechanism that moves between an actuated position and a non – actuated position, wherein movement of the shift mechanism from the non-actuated position to the actuated position moves the driveshaft from the disengaged position to the engaged position (Column 7, Lines 28 – 30, Lines 45 – 55; Column 8, Lines 11 – 27)

Claims 20 – 22, 24 – 28, 46 – 47, 51 - 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Griesemer et al (U.S. Pub. 2004/0252154).

Griesemer et al discloses:

- **regarding claim 20**, means for servicing the printhead, the means for servicing including means for retaining (maintenance house 68) and first and second means for engaging (Figures 4 – 5; Paragraphs 0008; 0044 – 0045; 0050)

- means for translating (86) the means for servicing (70) the printhead, the means for translating operable to move from a first translation position (guide members 88) in engagement with the first means for engaging (wiping 92) to a second translating

position (guide member 88) in engagement with the second means for engaging (capping 94) (Figures 4 – 5; Paragraphs 0044 – 0045; 0050)

- wherein the means for retaining (maintenance house 68) includes a retaining region, and wherein the means for retaining retains the means for translating in the first translating position when the means for translating is positioned within the retaining region (Figures 4 – 5; Paragraphs 0008; 0044 – 0045; 0050)

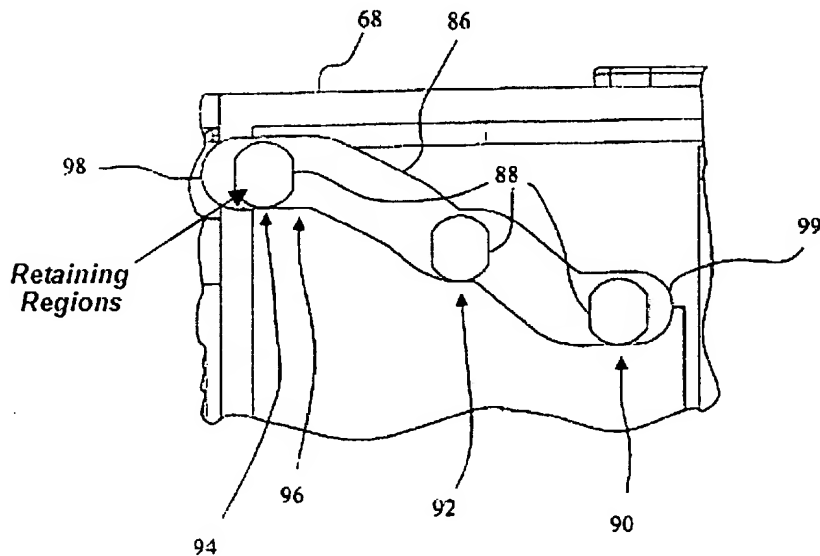


Fig. 5

- **regarding claim 21**, means for shifting the means for translating between a disengaged position and the first translation position, the means for shifting biased to shift the means for translating into the disengaged position in the absence of than external force on the means for shifting (Figures 4 – 5; Paragraphs 0008; 0044 – 0045; 0050)

- **regarding claim 24**, moving a translation device (70) into engagement with a retaining region (94, 92, or 90 of Figure 5) of a first servicing mechanism (Figures 4 – 5; Paragraphs 0008; 0034, 0044 – 0045; 0050)
- powering the translation device such that the first servicing mechanism is moved with respect to the translation device such that the translation device is positioned out of the retaining region (94, 92, or 90 of Figure 5) (Paragraphs 0030 – 0031, 0039, 0044 – 0045)
- moving the translation device into engagement with a second region of the servicing mechanism (Figures 4 – 5; Paragraphs 0008; 0034, 0044 – 0045; 0050)
- powering the translation device such that the second servicing mechanism is moved with respect to the translation device (Paragraphs 0030 – 0031, 0039, 0044 – 0045)
- **regarding claim 25**, step of moving the translation device into engagement with the first servicing mechanism comprises moving a printhead carriage into contact with an actuation device so as to move the actuation device from a non actuated position to an actuated position, wherein movement of the actuation device from the non actuated position to the actuated position moves the translation device from a disengaged position into engagement with the first servicing mechanism (Paragraphs 0008 – 0009, 0037)
- **regarding claim 26**, removing the printhead carriage from contact with the actuation device where after a retaining wall of the retaining region retains the

translation device in engagement with the first servicing mechanism in the retaining region (Figure 5; Paragraphs 0034, 0044 – 0045)

- **regarding claim 27**, powering the translation device such that the first servicing mechanism is moved with respect to the translation device such that the translation device is moved into an access region of the first servicing mechanism; and moving the translation device through the access region of the first servicing mechanism (Paragraphs 0030 – 0031, 0034, 0039, 0044 – 0045)

- **regarding claim 28**, the translation device is biased by a biasing member to move through the access region of the first servicing mechanism (Paragraph 0036)

- **regarding claim 46**, means for translating (86) a means for servicing (68) the printhead, the means for translating biased to move from a translating position and a non-translating position in the absence of an external force on the means for translating (Figures 4 – 5; Paragraphs 0008; 0044 – 0045; 0050)

- means for servicing the printhead, the means for servicing including means for retaining the means for translating in engagement with the means for servicing in a predetermined zone of engagement of the means for retaining (Figures 4 – 5; Paragraphs 0008; 0044 – 0045; 0050)

- **regarding claim 47**, means for shifting the means for translating between the translating position and the non-translation position, the means for shifting biased to translate the means for translating into the disengaged position in the absence of an external force on the manes for shifting (Figures 4 – 5; Paragraphs 0008; 0044 – 0045; 0050)

- **regarding claim 48 and claim 22**, the printhead is configured to selectively actuate the means for shifting by advancing into and out of contact with the means for shifting (Paragraphs 0037, 0045)

- **regarding claim 49**, means for powering the means for translating, wherein the means for translating engages the means for servicing and the means for powering in the translating position (Paragraphs 0030 – 0031, 0034, 0039, 0044 – 0045)

- **regarding claim 51**, moving a translation device into engagement with a first region of a servicing mechanism (Figures 4 – 5; Paragraphs 0008; 0034, 0044 – 0045; 0050)

- powering the translation device such that the servicing mechanism is moved with respect to the translation device and such that a second region of the servicing mechanism is moved into engagement with the translation device, the second region retaining the translation device in contact with the servicing mechanism (Paragraphs 0030 – 0031, 0034, 0039, 0044 – 0045)

- **regarding claim 52**, moving the translation device comprises moving a printhead carriage into contact with an actuation device so as to move the actuation device from a non-actuated condition to an actuated condition, wherein movement of the actuation device from the non-actuated position to the actuated position moves the translation device from a disengaged position into engagement with the first region of the servicing mechanism (Paragraphs 0008 – 0009, 0037)

- **regarding claim 53**, removing the printhead carriage from contact with the actuation device, where after the translation device remains engaged with the servicing mechanism while the translation device is in contact with the second region of the servicing mechanism; thereafter, translating the servicing mechanism, such that the second region is moved with respect to the translation device, to service the printhead in the absence of the printhead carriage (Figure 5; Paragraphs 0034, 0044 – 0045)

- **regarding claim 54**, servicing mechanism such that the second region of the servicing mechanism is moved out of contact with the translation device, whereupon the translation device is biased into the disengaged position (Figures 4 – 5; Paragraphs 0008; 0036, 0044 – 0045; 0050)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 – 6 are rejected under 35 U.S.C. 103(a) as being obvious over Lee et al (U.S. Pat. 5,587,729) in view of Belon et al (U.S. Pat. 6,172,691)

Lee et al discloses all the claimed limitations above except for the following:

- **regarding claim 5**, a shift structure operatively connected to the driveshaft and moving between an engaged position and a disengaged position,

wherein movement of the shift structure from the disengaged position to the engaged position moves the driveshaft from the disengaged position too the engaged position

- **regarding claim 6**, shift structure includes a biasing element that biases the shift arm into the disengaged position

Belon discloses:

- **regarding claim 5**, a shift structure (rocker arm 146) operatively connected to the driveshaft (82) and moving between an engaged position and a disengaged position, wherein movement of the shift structure from the disengaged position to the engaged position moves the driveshaft (82) from the disengaged position too the engaged position (Figure 4; Column 7, Lines 45-55), for the purpose of transferring power from the motor to the service station.

- **regarding claim 6**, shift structure includes a biasing element that biases the shift arm into the disengaged position (Column 6, Lines 22-42), for the purpose of transferring power from the motor to the service station.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Belon into the device of Lee et al. The motivation for doing so would have been to transfer power from the motor to the service station.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (U.S. Pat. 5,587,729) as modified by Belon et al (U.S. Pat. 6,172,691) as applied to claim 1 above, and further in view of Griesemer et al

Lee as modified by Belon discloses all the claimed limitations above except for the following:

- ***regarding claim 7***, a printhead cartridge that overcomes the biasing element on the shift arm and moves the shift structure from the disengaged position to the engaged position

Griesemer discloses:

- ***regarding claim 7***, a printhead cartridge that overcomes the biasing element on the shift arm and moves the shift structure from the disengaged position to the engaged position (Paragraph 0037), for the purpose of performing maintenance on the printhead.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Griesemer into the device of Lee as modified by Belon, for the purpose of performing maintenance on the printhead.

Claims 14 – 18, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirano et al (U.S. Pat. 5,907,334) in view of Griesemer et al (U.S. Pub. 2004/0252154).

Hirano et al discloses all the claimed limitations above, except for the following:

- ***regarding claim 14***, first retaining wall includes an access region, the drive structure moving through the access region when the drive structure is moved from the disengaged position to the first engaged position

- **regarding claim 15**, second retaining wall includes an access region, the drive structure moving through the access region when the drive structure is moved from the first engaged position to the second engaged position

- **regarding claim 16**, a biasing member that biases the drive structure to move from the first engaged position to the disengaged position, the first retaining wall including a retaining region that retains the drive structure in the first engaged position and against biased movement to the disengaged position when the drive structure is positioned within the retaining region

- **regarding claim 17**, a biasing member that biases the drive structure to move from the first engaged position to the second engaged position, the second retaining wall including a retaining region that retains the drive structure in the first engaged position when the drive structure is positioned within the retaining region

- **regarding claim 18**, a shift arm that pivots between an actuated position and a non-actuated position to the actuated position moves the drive structure from the disengaged position to the first engaged position

- wherein the biasing member biases the shift arm to pivot from the actuated position to the non-actuated positions

- a printhead carriage operable to pivot the shift arm from the non-actuated position to the actuated position by overcoming a biasing force of the biasing member

Griesemer et al discloses:

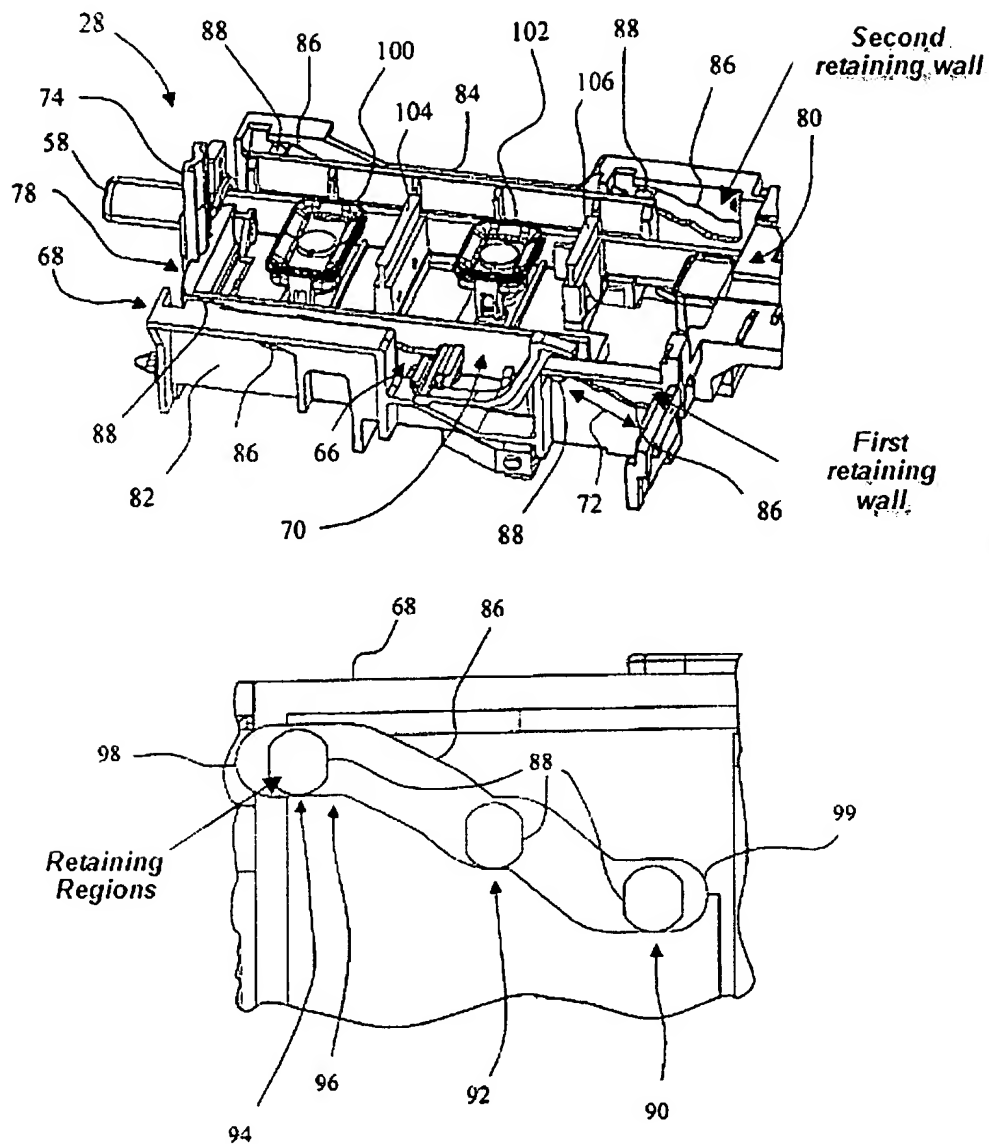
- **regarding claim 14**, first retaining wall includes an access region, the drive structure moving through the access region when the drive structure is moved

from the disengaged position to the first engaged position (Figures 4 – 5; Paragraphs 0008; 0044 – 0045), for the purpose of guiding and securing a maintenance sled.

- **regarding claim 15**, second retaining wall includes an access region, the drive structure moving through the access region when the drive structure is moved from the first engaged position to the second engaged position (Figures 4 – 5; Paragraphs 0008; 0044 – 0045), for the purpose of guiding and securing a maintenance sled.

- **regarding claim 16**, a biasing member that biases the drive structure to move from the first engaged position to the disengaged position, the first retaining wall including a retaining region that retains the drive structure in the first engaged position and against biased movement to the disengaged position when the drive structure is positioned within the retaining region (Figures 4 – 5; Paragraphs 0008; 0044 – 0045; 0050), for the purpose of guiding and securing a maintenance sled.

- **regarding claim 17**, a biasing member that biases the drive structure to move from the first engaged position to the second engaged position, the second retaining wall including a retaining region that retains the drive structure in the first engaged position when the drive structure is positioned within the retaining region (Figures 4 – 5; Paragraphs 0008; 0044 – 0045; 0050), for the purpose of guiding and securing a maintenance sled.



Figures 4 and 5: Retaining walls

- **regarding claim 18**, a shift arm that pivots between an actuated position and a non-actuated position to the actuated position moves the drive structure from the disengaged position to the first engaged position (Paragraphs 0037, 0044 - 0045), for

the purpose of engaging the service station to the printhead when the printhead is in the service area.

- wherein the biasing member biases the shift arm to pivot from the actuated position to the non-actuated positions; a printhead carriage operable to pivot the shift arm from the non-actuated position to the actuated position by overcoming a biasing force of the biasing member (Figures 4 – 5; Paragraphs 0008; 0036; 0044 – 0045; 0050), for the purpose of guiding and securing a maintenance sled.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Griesemer et al into the device of Hirano et al, for the purpose of guiding and securing the maintenance sled and engaging the service station to the printhead when the printhead is in the service area.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirano et al (U.S. Pat. 5,907,334) as modified by Griesemer et al (U.S. Pub. 2004/0252154) as applied to claim 13 above, and further in view of Lee et al (U.S. Pat. 5,587,729).

Hirano et al as modified by Griesemer et al disclose all the claimed limitations above, except for the following:

- ***regarding claim 19***, servicing station drive structure is not in contact with either of the first and second engagement structures, wherein in the first engaged position the servicing station drive structure is powered by a power shaft and mates with the first engagement structure to translate the first servicing sled parallel to a sled translation axis, and wherein in the second engaged position the servicing station drive

structure is powered by the power shaft and mates with the second engagement structure to translate the second servicing sled parallel to the sled translation axis

Lee et al disclose:

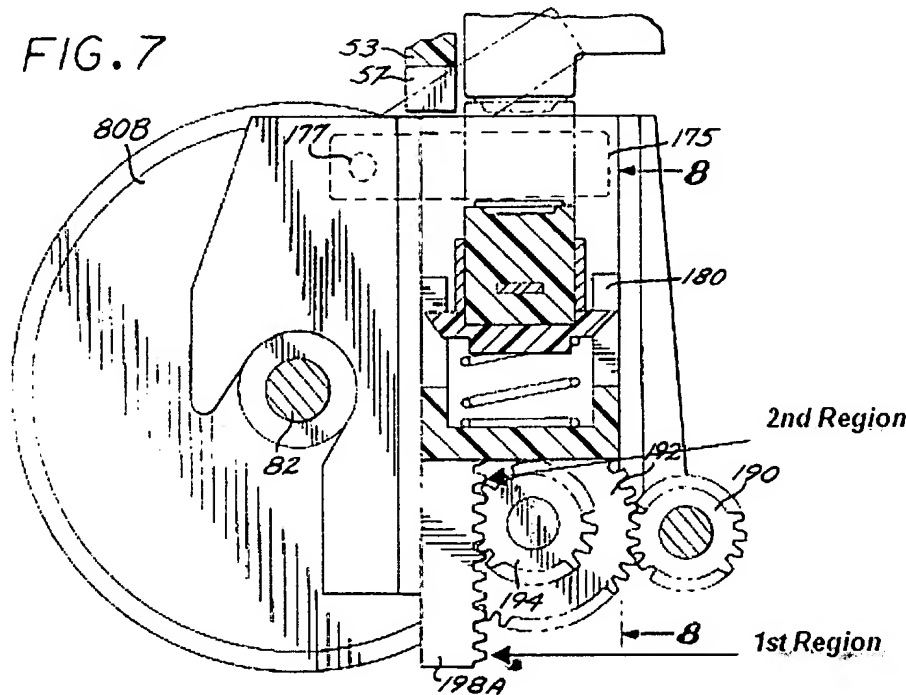
- ***regarding claim 19***, servicing station drive structure is not in contact with either of the first (48) and second (50) engagement structures, wherein in the first engaged position the servicing station drive structure is powered by a power shaft and mates with the first engagement (48) structure to translate the first servicing sled parallel to a sled translation axis, and wherein in the second engaged position the servicing station drive structure is powered by the power shaft and mates with the second engagement structure to translate the second servicing sled parallel to the sled translation axis (Figures 6 – 8; Column 2, Lines 14 – 32; Column 4, Lines 17 – 51), for the purpose of powering a maintenance sled, with multiple uses, to maintain a print head.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Lee et al into the device of Hirano et al as modified by Griesemer et al, for the purpose of powering a maintenance sled, with multiple uses, to maintain a print head.

Claim 37 rejected under 35 U.S.C. 103(a) as being unpatentable over Belon et al (U.S. Pat. 6,172,691) as modified by Griesemer et al (U.S. Pat. 2004/0252154).as applied to claim 31 above, and further in view of Gaasch (U.S. Pat. 6,357,851)

Belon et al as modified by Griesemer et al discloses

- **regarding claim 37**, retaining wall includes a first region and a second region, wherein powering of the driveshaft moves the driveshaft from the first region to the second region of the rack (Column 8, Lines 10 – 27)



Belon et al as modified by Griesemer et al does not disclose expressly the following:

- **regarding claim 37**, movement of the driveshaft from the first region to the second region of the rack moves the shift arm out of engagement with the print head carriage

Gaasch discloses:

- **regarding claim 37**, movement of the driveshaft from the first region to the second region of the rack moves the shift arm out of engagement with the print head carriage (Column 7, Lines 60 – 67; Column 8, Lines 1 – 25), for the purpose of allowing

the printhead to move after engagement with a shift arm.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of movement of the driveshaft from the first region to the second region of the rack moves the shift arm out of engagement with the print head carriage as taught by Gaasch into the device of Belon et al as modified by Griesemer et al, for the purpose of allowing the printhead to move after engagement with a shift arm.

Claims 36, 40 - 41 44 – 45, 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belon et al (U.S. Pat. 6,172,691) in view of Griesemer et al (U.S. Pat. 2004/0252154).

Belon et al discloses all the claimed limitations except for the following:

- ***regarding claim 36***, a printhead carriage that moves the shift arm from the disengaged position to the engaged portion
- ***regarding claim 40***, shift arm includes a biasing element that biases the shift arm to move the driveshaft into the disengaged position when the driveshaft is not positioned in the zone of the retaining wall
- ***regarding claim 41***, driveshaft is in the disengaged position, the retaining wall interferes with the driveshaft thereby preventing movement of the sled
- ***regarding claim 44***, carriage movable between an engaged position and a disengaged position, wherein movement of the printhead carriage from the

disengaged position to the engaged position moves the shift mechanism from the non – actuated position to the actuated position

- **regarding claim 45**, shift arm including a biasing member, the biasing member biasing the shift arm into the non-actuated position in the absence of an external force on the shift arm

- **regarding claim 55**, a biasing member coupled to the driveshaft for biasing the driveshaft out of engagement with the rack

Griesmer et al discloses:

- **regarding claim 36**, a printhead carriage that moves the shift arm from the disengaged position to the engaged portion (Paragraph 0037), for the purpose of engaging the service station to the printhead when the printhead is in the service area.

- **regarding claim 40**, shift arm includes a biasing element that biases the shift arm to move the driveshaft into the disengaged position when the driveshaft is not positioned in the zone of the retaining wall (76 of Figure 2; Paragraph 0036), for the purpose of moving a sled to the proper position.

- **regarding claim 41**, driveshaft is in the disengaged position, the retaining wall interferes with the driveshaft thereby preventing movement of the sled (Figure 2; Paragraphs 0036 – 0037, 0045), for the purpose of maintaining position of the sled.

- **regarding claim 44**, carriage movable between an engaged position and a disengaged position, wherein movement of the printhead carriage from the disengaged position to the engaged position moves the shift mechanism from the non – actuated position to the actuated position (Paragraphs 0037, 0044 - 0045), for the

purpose of engaging the service station to the printhead when the printhead is in the service area.

- **regarding claim 45**, shift arm including a biasing member, the biasing member biasing the shift arm into the non-actuated position in the absence of an external force on the shift arm (Paragraph 0050), for the purpose of engaging the service station to the printhead when the printhead is in the service area.

- **regarding claim 55**, a biasing member coupled to the driveshaft for biasing the driveshaft out of engagement with the rack (Paragraph 0050), for the purpose of engaging the service station to the printhead when the printhead is in the service area.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Griesmer et al into the device of Belon et al, for the purpose of engaging the service station to the printhead when the printhead is in the service area, and maintaining position of the sled and moving a sled to the proper position.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (U.S. Pat. 5,587,729) in view of Griesemer et al (U.S. Pub. 2004/0252154).

Lee et al discloses all the claimed limitations above, except for the following:

- **regarding claim 30**, a biasing member coupled to the driveshaft for biasing the driveshaft for biasing the driveshaft out of engagement with the first and second engagement structures

Griesermer et al discloses:

- **regarding claim 30**, a biasing member coupled to the driveshaft for biasing the driveshaft for biasing the driveshaft out of engagement with the first and second engagement structures (Paragraph 0036), for the purpose of moving a sled to the proper position.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of a biasing member coupled to the driveshaft for biasing the driveshaft for biasing the driveshaft out of engagement with the first and second engagement structures as taught by Griesermer et al into the device of Lee et al, for thee purpose of moving a sled into the proper position.

Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belon et al (U.S. Pat. 6,172,691) in view of Kimura et al (U.S. Pat. 5,325,151).

Belon et al discloses all the claimed limitations above, except for the following:

- **regarding claim 56**, wherein the driveshaft includes projections, and the idler gear includes projections, and wherein in the engaged position the projections of the driveshaft mate with the projections of the idler gear

Kimura et al discloses:

- **regarding claim 56**, wherein the driveshaft includes projections/ratchet teeth, and the idler gear includes projections/ratchet teeth, and wherein in the engaged position the projections of the driveshaft mate with the projections/ratchet teeth of the idler gear (Column 4, Lines 33 – 45), for the purpose of powering a gear by meshing a driveshaft and said gear.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of the driveshaft includes projections, and the idler gear includes projections, and wherein in the engaged position the projections of the driveshaft mate with the projections of the idler gear as taught by Kimura et al into the device of Belon et al, for the purpose of powering a gear by meshing a driveshaft and said gear.

Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Griesemer et al (U.S. Pub. 2004/0252154) in view of Taylor et al (U.S. Pat. 6,328,412), Ota et al (U.S. Pub. 2003/0169312) and Belon et al (U.S. Pat. 6,172,691).

Griesemer et al discloses all the claimed limitations above except for the following:

- **regarding claim 50**, a servicing sled including a rack that extends along a length of the sled, the means for retaining comprises a guide wall positioned adjacent to and extending along at least a portion of the rack, the means for translating comprises a driveshaft that engages a powered gear and the rack is retained on the rack by the guide wall in the translating position, and the means for shifting comprises a shift arm

including a leaf spring, a first end adapted for contact with the printhead, and a second end secured to the driveshaft

Taylor et al discloses:

- ***regarding claim 50***, a servicing sled including a rack that extends along a length of the sled, means for retaining comprises a guide wall/frame positioned adjacent to and extending a long at least a portion of the rack (Figure 4; Column 5, Lines 14 – 22, Lines 29 – 36; Column 9, Lines 61 – 67; Column 10, Lines 1 – 8), for the purpose of efficiently maintaining a print head with a translational print head service station.

Belon et al discloses:

- ***regarding claim 50***, translating comprises a driveshaft that engages a powered gear and the rack (Column 7, Lines 28 – 30, Lines 45 – 55; Column 8, Lines 11 – 27), for the purpose of providing power to the sliding apparatus.

Ota et al discloses:

- ***regarding claim 50***, a shift arm including a leaf spring, a first end adapted for contact with printhead, and a second end secured to the driveshaft (Paragraph 0067), for the purpose of efficiently maintaining a print head with a translational print head service station.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Taylor et al, Ota et al, and Belon et al into the device of Griesemer et al, for the purpose of efficiently maintain a print head with a translational print head service station and provide power to the sliding apparatus.

Response to Arguments

Applicant's arguments filed 7/18/2006 have been fully considered but they are not persuasive.

Regarding Claim 1, applicant argues that Lee fails to disclose an axially movable drive shaft. The examiner respectfully disagrees. Lee discloses that a sled including first (48) and second (50) engagement structures rotate (axis of rotation, 38 of Figure 3) on an axially movable driveshaft (36, 40, of Figures 9, 10)

Regarding Claim 13, applicant argues that Hirano does not disclose a servicing station drive structure movable between a first engaged position engaging the first engagement structure and a second engagement position engaging the second engagement structure. The examiner respectfully disagrees. Hirano discloses a servicing station drive structure (10, 19) movable between a disengaged position, a first engaged position (37), and a second engaged position (34), as claimed. When drive structure (10) is engaged (head 11) with engagement structure (37), this is the first engaged position, and when the drive structure (19) is engaged (heads 20-22) with engagement structure (34), this is considered the second engaged position.

Regarding Claim 31, applicant argues that Belon does not disclose a sled including a rack adapted to selectively engage the drive shaft. The examiner respectfully disagrees. Belon discloses a driveshaft (82); and a sled (180) including a rack (198) to selectively engage the driveshaft. Activation gear (152) selectively engages the rocker gear (144), when engaged the activation gear (152) can be driven

counterclockwise as the drive shaft (82) is driven counterclockwise, driving the rack assembly (Figure 4; Column 7, Lines 45-55).

Regarding Claim 42, applicant argues that Belon does not disclose a drive shaft that is movable between an engaged position and a drive shaft that is movable between an engaged position and a disengaged position with respect to engagement structure of a sled. The examiner respectfully disagrees. Belon discloses a driveshaft (82) movable between a engaged position and a disengaged position, the drive shaft (82) is in the engaged position engaging the power shaft (124) and the engagement structure (150, 152, 190, of Figure 4) of the sled so as to transmit power from the power shaft (124) to the sled (180), as claimed. The drive shaft is engaged with the power shaft, but must also be engaged with the sled engagement structure to be considered in the engaged position (Figure 4).

Regarding claim 20, applicant argues that Griesemer does not disclose a means for servicing a printhead, wherein the means for servicing includes means for retaining and the first and second means for engaging; means for translating the means for servicing, wherein the means for translating moves from a first translating position in engagement with the first means for engaging in a second translating position in engagement with the second means for engaging. The examiner respectfully disagrees. Griesemer discloses a servicing means (sled 70), wherein the means for servicing includes means for retaining (maintenance housing 68) for retaining and first (Caps [100,102]) and second (wipers 106) means for engaging. Griesemer also discloses translating means (guide slot 86) for servicing, wherein the means for

translating moves from a first translating position (guide members 88) in engagement with the first means for engaging (wiping 92) in a second translating position (guide members 88) in engagement with the second means for engaging (capping 94)

Regarding claim 24, applicant argues that Griesmer does not disclose moving a first servicing mechanism with respect to a translation device and moving a second servicing mechanism with respect to the translation device. The examiner respectfully disagrees. Griesmer discloses moving a translating device (sled 70) into engagement with a retaining region (94, 92, or 90 of Figure 5) of a first servicing mechanism (wiper 92); powering the translation device (70) such that the first servicing mechanism (wiper 92) is moved with respect to the translation device (sled 70) such that the translation device is positioned out of the retaining region (94, 92, or 90 of Figure 5). The servicing mechanism (wiper 92) has a relation of delimitation with the translation device (sled 70) and is moved within those limits (with respect to) (Paragraph 0044-0045)

Regarding Claim 46, applicant argues that Griesemer does not disclose means for translating and means for servicing, wherein the means for servicing includes means for retaining the means for translating in engagement with the means for servicing in a predetermined zone of engagement of the means for retaining. The examiner respectfully disagrees. Griesemer discloses means for translating (guide slot 86) and means for servicing (maintenance housing 68), wherein the means for servicing (68 of Figure 4) includes means for retaining (94, 92, 90 of Figure 5) the means for translating (guide slot 86) in engagement with the means for servicing (68) in a predetermined zone of engagement of the means for retaining (94, 92, 90)

Regarding Claim 51, applicant argues that Griesemer does not disclose a translation device into engagement with a first region of a servicing mechanism and powering the translation device such that the servicing mechanism is moved with respect to the translation device. The examiner respectfully disagrees. Griesemer discloses a translation device (sled 70) into engagement with a first region (94, 92, or 90 of Figure 5) of a servicing mechanism (cap [100, 102], wiper 106) and powering the translation device (70) such that the servicing mechanism (cap, wiper) is moved with respect to the translation device (70). The servicing mechanism (cap, wiper) has a relation of delimitation with the translation device (70) and is moved within those limits (with respect to) (Paragraph 0044-0045)

Allowable Subject Matter

Claims 3, 8, 10, 11, 12, 23, and 37 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the indication of allowable subject matter of claims 3, 8, and 11 is the inclusion of the limitation of when a driveshaft is in the engaged position the gear is shiftable between a first engaged position and a second engaged position, wherein the gear in the first engaged position engages the first engagement structure and where the gear in the second engaged position engages the second engagement

structure. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the indication of allowable subject matter of claim 10 is the inclusion of the limitation of a printhead service mechanism comprising, a sled includes a first sled including a first engagement structure and a cap, and a second sled including a second engagement structure and a wiper and a spittoon, wherein the first and second sleds are operable for movement independent of one another. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the indication of allowable subject matter of claim 12 is the inclusion of the limitation of a printhead service mechanism wherein first engagement structure comprises a first rack, the second engagement structure comprises a second rack and the retaining structure comprises a retaining wall positioned there between, and the retaining wall comprising first and second end walls with the retaining portion extending there between. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the indication of allowable subject matter of claim 23 is the inclusion of the limitation of a printing mechanism with means for servicing

comprises first and second servicing sleds, means for retaining comprises a retaining wall positioned on the first sled, first and second means for engaging comprise, respectively, first and second racks each extending along the retaining wall, the first rack positioned on the first sled and the second rack positioned on the second sled, means for translating comprises a driveshaft, and the means for shifting comprises a shift arm including a leaf spring a first end adapted for contact with the print head and a second end secured to the driveshaft. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Claim 29 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claim 29 is the inclusion of the limitation of a printer comprising a servicing sled positioned within the servicing region and including a spittoon, a wiper, a cap, first and second racks and a guide wall positioned between the racks, the guide wall including a retaining region and an access region; a servicing sled drive shaft powered by the feed roller drive shaft, the servicing sled drive shaft including a gear slidably mounted thereon, and a biasing member secured to the shaft and the gear, the servicing sled drive shaft movable between a disengaged position where the gear is not in contact with the servicing sled and an engaged position where the gear is movable between contact with the first rack and second rack; wherein the

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biasing member biases the gear to move from the first rack to the second rack when the gear is aligned with the access region of the guide wall and wherein the retaining wall retains the gear on the first rack when the gear is positioned adjacent the retaining region of the guide wall. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


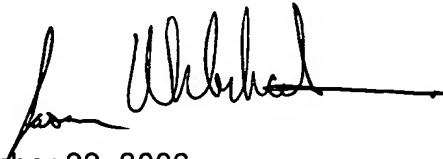
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JSU
September 22, 2006



STEPHEN MEIER
SUPERVISORY PATENT EXAMINER